

**WHAT IS CLAIMED IS:**

1        1. A tension mask frame assembly for a color cathode ray tube, comprising:  
2              a tension mask formed on a plate, the tension mask including a plurality of strips and  
3              including a plurality of slots to separate by a predetermined distance corresponding adjacent ones  
4              of the plurality of strips;

5              a plurality of real bridges for respectively partitioning corresponding slots of the plurality  
6              of slots at a predetermined pitch interval by connecting adjacent ones of the plurality of strips;  
7              and

8              a frame for supporting the tension mask, whereby a vertical pitch of the plurality of real  
9              bridges in a center portion of the tension mask is greater than a vertical pitch of the plurality of  
10             real bridges in a peripheral portion of the tension mask.

11        2. The tension mask frame assembly for a color cathode ray tube according to claim 1,

12             further comprising:

13              a plurality of dummy bridges, each dummy bridge extending from a strip of the plurality  
14              of strips on at least one side of a corresponding slot of the plurality of slots in a direction towards  
15              a strip of the plurality of strips on an opposite side of the corresponding slot and being formed  
16              adjacent to the corresponding slot that is partitioned by a corresponding one of the plurality of  
17              real bridges.

1       3. The tension mask frame assembly for a color cathode ray tube according to claim 2,  
2       further comprised of corresponding dummy bridges of the plurality of dummy bridges adjacent to  
3       a corresponding slot of the plurality of slots being in a staggered relation with respect to  
4       corresponding dummy bridges of the plurality of dummy bridges adjacent to an opposing slot of  
5       the plurality of slots.

1       4. The tension mask frame assembly for a color cathode ray tube according to claim 2,  
2       further comprised of a portion of the tension mask to one side of a center of the tension mask  
3       being symmetrical to a corresponding portion of the tension mask located to an opposing side of  
4       the center of the tension mask.

1       5. The tension mask frame assembly for a cathode ray tube according to claim 2, further  
2       comprised of opposing side portions of the tension mask located with respect to a center of the  
3       tension mask being symmetrical.

1       6. The tension mask frame assembly for a color cathode ray tube according to claim 2,  
2       further comprised of each dummy bridge including a pair of protrusions, each pair of protrusions  
3       respectively extending from adjacent strips of the plurality of strips, whereby a corresponding  
4       pair of protrusions forming a dummy bridge are disposed in facing relation to each other.

1       7. A tension mask frame assembly for a color cathode ray tube, comprising:

2           a tension mask formed on a plate, the tension mask including a plurality of strips and  
3         including a plurality of slots to separate by a predetermined distance corresponding adjacent ones  
4         of the plurality of strips;

5           a plurality of real bridges for respectively partitioning corresponding slots of the plurality  
6         of slots at a predetermined pitch interval by connecting adjacent ones of the plurality of strips;  
7         and

8           a frame for supporting the tension mask, whereby a vertical pitch of the plurality of real  
bridges decreases in a stepwise relation in a direction from a center portion of the tension mask to  
a peripheral portion of the tension mask.

8. The tension mask frame assembly for a color cathode ray tube according to claim 7,  
further comprising a plurality of dummy bridges on the plate, each dummy bridge extending from  
a strip of the plurality of strips on at least one side of a corresponding slot of the plurality of slots  
in a direction towards a strip of the plurality of strips on an opposite side of the corresponding  
slot and being formed adjacent to the corresponding slot that is partitioned by a corresponding  
one of the plurality of real bridges.

1           9. The tension mask frame assembly for a color cathode ray tube according to claim 8,  
2         further comprised of corresponding dummy bridges of the plurality of dummy bridges adjacent to  
3         a corresponding slot of the plurality of slots being in a staggered relation with respect to  
4         corresponding dummy bridges of the plurality of dummy bridges adjacent to an opposing slot of

5 the plurality of slots.

1           10. The tension mask frame assembly for a color cathode ray tube according to claim 8,  
2 further comprised of a portion of the tension mask located to one side with respect to a center of  
3 the tension mask being symmetrical to a corresponding portion of the tension mask located to an  
4 opposing side with respect to the center of the tension mask.

1           11. The tension mask frame assembly for a color cathode ray tube according to claim 8,  
2 further comprised of opposing side portions of the tension mask located with respect to a center  
3 of the tension mask being symmetrical.

1           12. The tension mask frame assembly for a color cathode ray tube according to claim 8,  
2 further comprised of each dummy bridge including a pair of protrusions, each pair of protrusions  
3 respectively extending from adjacent strips of the plurality of strips, whereby a corresponding  
4 pair of protrusions forming a dummy bridge are disposed in facing relation to each other.

1           13. The tension mask frame assembly for a color cathode ray tube according to claim 8,  
2 further comprised of a value M being obtained by dividing a vertical pitch of corresponding ones  
3 of the plurality of real bridges of the tension mask by a vertical pitch of corresponding ones of  
4 the plurality of dummy bridges of the tension mask, the value M decreasing in a stepwise relation  
5 in a direction from the center portion of the tension mask to the peripheral portion of the tension

6 mask.

1 14. The tension mask frame assembly for a color cathode ray tube according to claim 13,  
2 further comprised of the value M being in the range of from  $3 \leq M \leq 29$ .

1 15. The tension mask frame assembly for a color cathode ray tube according to claim 13,  
2 further comprised of the value M being an integer.

1 16. The tension mask frame assembly for a color cathode ray tube according to claim 13,  
2 further comprised of the tension mask including a plurality of regions, with a region of the  
3 plurality of regions having a value M obtained by dividing a vertical pitch of corresponding ones  
4 of real bridges in the region by a vertical pitch of corresponding ones of the dummy bridges in  
5 the region and having an adjacent region to the region of the plurality of regions having a value  
6 M-n obtained by dividing a vertical pitch of corresponding ones of real bridges in the adjacent  
7 region by a vertical pitch of corresponding ones of dummy bridges in the adjacent region, with n  
8 being a value greater than zero and less than M.

1 17. The tension mask frame assembly for a color cathode ray tube according to claim 16,  
2 further comprised of the value M being in the range of from  $3 \leq M \leq 29$ .

1 18. The tension mask frame assembly for a color cathode ray tube according to claim 7,

2 further comprised of a portion of the tension mask located to one side with respect to a center of  
3 the tension mask being symmetrical to a corresponding portion of the tension mask located to an  
4 opposing side with respect to the center of the tension mask.

1 19. The tension mask frame assembly for a color cathode ray tube according to claim 7,  
2 further comprised of the stepwise relation being symmetrical for corresponding portions of the  
3 tension mask respectively located on opposing side portions with respect to a center of the  
4 tension mask.

1 20. The tension mask frame assembly for a color cathode ray tube according to claim 7,  
2 further comprised of corresponding opposing side portions of the tension mask located with  
3 respect to a center of the tension mask being symmetrical.

1 21. A tension mask frame assembly for a color cathode ray tube, comprising:  
2 a tension mask including a plurality of strips for forming a plurality of slots isolated from  
3 each other on a plate at intervals of a predetermined distance;  
4 a plurality of real bridges for respectively partitioning corresponding slots of the plurality  
5 of slots at a predetermined pitch interval by connecting adjacent ones of the plurality of strips;  
6 a plurality of dummy bridges, each dummy bridge extending from a strip of the plurality  
7 of strips on at least one side of a corresponding slot of the plurality of slots in a direction towards  
8 a strip of the plurality of strips on an opposite side of the corresponding slot and being formed

9 adjacent to the corresponding slot that is defined by a corresponding one of the plurality of real  
10 bridges and corresponding adjacent ones of the plurality of strips; and

11 a frame for supporting the corresponding edges of the tension mask, the tension mask  
12 being partitioned into a plurality of regions in a direction from a center portion of the tension  
13 mask to a peripheral portion of the tension mask, whereby a vertical pitch of corresponding ones  
14 of the plurality of real bridges of the tension mask decreases in a stepwise relation in a direction  
15 from the center portion of the tension mask to the peripheral portion of the tension mask, with  
each decrease in the stepwise relation corresponding to a corresponding region of the plurality of  
regions.

16  
22. The tension mask frame assembly for a color cathode ray tube according to claim 21,  
further comprised of each of the plurality of dummy bridges including a pair of protrusions, each  
pair of protrusions respectively extending from adjacent strips of the plurality of strips, whereby  
a corresponding pair of protrusions forming a dummy bridge are disposed in facing relation to  
5 each other.

1  
23. The tension mask frame assembly for a color cathode ray tube according to claim 21,  
2 further comprised of a value M being obtained for a corresponding region of the plurality of  
3 regions of the tension mask by dividing a vertical pitch of real bridges in the corresponding  
4 region of the tension mask by a vertical pitch of dummy bridges in the corresponding region of  
5 the tension mask, the value M decreasing in a stepwise relation in a direction from the center

6 portion of the tension mask to the peripheral portion of the tension mask, with each decrease in  
7 the value of M in the stepwise relation corresponding to a corresponding region of the plurality of  
regions.

1           24. The tension mask frame assembly for a color cathode ray tube of claim 23, further  
2 comprised of the value M being in a range of  $3 \leq M \leq 29$ .

25. The tension mask frame assembly for a color cathode ray tube of claim 23, further  
comprised of M being an integer.

26. The tension mask frame assembly for a color cathode ray tube of claim 23, further  
comprised of a region of the plurality of regions of the tension mask having a value M obtained  
by dividing a vertical pitch of corresponding ones of real bridges in the region by a vertical pitch  
of corresponding ones of dummy bridges in the region and having an adjacent region to the  
region of the plurality of regions having a value M-n obtained by dividing a vertical pitch of  
corresponding ones of real bridges in the adjacent region by a vertical pitch of corresponding  
ones of dummy bridges in the adjacent region, with n being a value greater than zero and less  
than M.

1           27. The tension mask frame assembly for a color cathode ray tube of claim 26, further  
2 comprised of the value M being in a range of  $3 \leq M \leq 29$ .

1           28. The tension mask frame assembly for a color cathode ray tube according to claim 21,  
2 further comprised of a portion of the tension mask located to one side with respect to a center of  
3 the tension mask being symmetrical to a corresponding portion of the tension mask located to an  
4 opposing side with respect to the center of the tension mask.

1           29. The tension mask frame assembly for a color cathode ray tube according to claim 21,  
2 further comprised of the stepwise relation being symmetrical for corresponding portions of the  
3 tension mask respectively located on opposing side portions of the tension mask with respect to a  
4 center of the tension mask.

1           30. The tension mask frame assembly for a color cathode ray tube according to claim 21,  
2 further comprised of corresponding regions of the plurality of regions respectively located on  
3 opposing side portions of the tension mask with respect to a center of the tension mask being  
4 symmetrical.

1           31. The tension mask frame assembly for a color cathode ray tube according to claim 21,  
2 further comprised of the stepwise relation being symmetrical for corresponding regions of the  
3 plurality of regions respectively located on opposing side portions of the tension mask with  
4 respect to a center of the tension mask.

1           32. A tension mask for a color cathode ray tube, comprising:

2           a tension mask formed on a plate, the tension mask including a plurality of strips and  
3           including a plurality of slots to separate by a predetermined distance corresponding adjacent ones  
4           of the plurality of strips; and

5           a plurality of real bridges for respectively partitioning corresponding slots of the plurality  
6           of slots at a predetermined pitch interval by connecting adjacent ones of the plurality of strips,  
7           whereby a vertical pitch of the plurality of real bridges in a center portion of the tension mask is  
greater than a vertical pitch of the plurality of real bridges in a peripheral portion of the tension  
mask.

33. The tension mask for a color cathode ray tube according to claim 32, further  
comprising:

4           a plurality of dummy bridges, each dummy bridge extending from a strip of the plurality  
5           of strips on at least one side of a corresponding slot of the plurality of slots in a direction towards  
6           a strip of the plurality of strips on an opposite side of the corresponding slot and being formed  
7           adjacent to the corresponding slot that is partitioned by a corresponding one of the plurality of  
real bridges.

1           34. The tension mask for a color cathode ray tube according to claim 33, further  
2           comprised of corresponding dummy bridges of the plurality of dummy bridges adjacent to a  
3           corresponding slot of the plurality of slots being in a staggered relation with respect to

4 corresponding dummy bridges of the plurality of dummy bridges adjacent to an opposing slot of  
5 the plurality of slots.

1           35. The tension mask for a color cathode ray tube according to claim 33, further  
2 comprised of a portion of the tension mask to one side of a center of the tension mask being  
3 symmetrical to a corresponding portion of the tension mask located to an opposing side of the  
4 center of the tension mask.

36. The tension mask for a color cathode ray tube according to claim 33, further  
comprised of each dummy bridge including a pair of protrusions, each pair of protrusions  
respectively extending from adjacent strips of the plurality of strips, whereby a corresponding  
pair of protrusions forming a dummy bridge are disposed in facing relation to each other.

37. A tension mask for a color cathode ray tube, comprising:

2           a tension mask formed on a plate, the tension mask including a plurality of strips and  
3 including a plurality of slots to separate by a predetermined distance corresponding adjacent ones  
4 of the plurality of strips; and

5           a plurality of real bridges for respectively partitioning corresponding slots of the plurality  
6 of slots at a predetermined pitch interval by connecting adjacent ones of the plurality of strips,  
7 whereby a vertical pitch of the plurality of real bridges decreases in a stepwise relation in a  
8 direction from a center portion of the tension mask to a peripheral portion of the tension mask.

1           38. The tension mask for a color cathode ray tube according to claim 37, further  
2 comprising a plurality of dummy bridges on the plate, each dummy bridge extending from a strip  
3 of the plurality of strips on at least one side of a corresponding slot of the plurality of slots in a  
4 direction towards a strip of the plurality of strips on an opposite side of the corresponding slot  
5 and being formed adjacent to the corresponding slot that is partitioned by a corresponding one of  
6 the plurality of real bridges.

39. The tension mask for a color cathode ray tube according to claim 38, further  
comprised of a portion of the tension mask located to one side with respect to a center of the  
tension mask being symmetrical to a corresponding portion of the tension mask located to an  
opposing side with respect to the center of the tension mask.

40. The tension mask for a color cathode ray tube according to claim 38, further  
comprised of each dummy bridge including a pair of protrusions, each pair of protrusions  
respectively extending from adjacent strips of the plurality of strips, whereby a corresponding  
pair of protrusions forming a dummy bridge are disposed in facing relation to each other.

41. The tension mask for a color cathode ray tube according to claim 38, further  
comprised of a value M being obtained by dividing a vertical pitch of corresponding ones of the  
plurality of real bridges of the tension mask by a vertical pitch of corresponding ones of the

4       plurality of dummy bridges of the tension mask, the value M decreasing in a stepwise relation in  
5       a direction from the center portion of the tension mask to the peripheral portion of the tension  
6       mask.

1           42. The tension mask for a color cathode ray tube according to claim 41, further  
2       comprised of the value M being in the range of from  $3 \leq M \leq 29$ .

1           43. The tension mask for a color cathode ray tube according to claim 37, further  
2       comprised of a portion of the tension mask located to one side with respect to a center of the  
3       tension mask being symmetrical to a corresponding portion of the tension mask located to an  
4       opposing side with respect to the center of the tension mask.

1           44. The tension mask for a color cathode ray tube according to claim 37, further  
2       comprised of the stepwise relation being symmetrical for corresponding portions of the tension  
3       mask respectively located on opposing side portions with respect to a center of the tension mask.

1           45. A tension mask for a color cathode ray tube, comprising:  
2           a tension mask including a plurality of strips for forming a plurality of slots isolated from  
3       each other on a plate at intervals of a predetermined distance;  
4           a plurality of real bridges for respectively partitioning corresponding slots of the plurality  
5       of slots at a predetermined pitch interval by connecting adjacent ones of the plurality of strips;

6 and

7 a plurality of dummy bridges, each dummy bridge extending from a strip of the plurality  
8 of strips on at least one side of a corresponding slot of the plurality of slots in a direction towards  
9 a strip of the plurality of strips on an opposite side of the corresponding slot and being formed  
10 adjacent to the corresponding slot that is defined by a corresponding one of the plurality of real  
11 bridges and corresponding adjacent ones of the plurality of strips, the tension mask being  
12 partitioned into a plurality of regions in a direction from a center portion of the tension mask to a  
13 peripheral portion of the tension mask, whereby a vertical pitch of corresponding ones of the  
14 plurality of real bridges of the tension mask decreases in a stepwise relation in a direction from  
15 the center portion of the tension mask to the peripheral portion of the tension mask, with each  
16 decrease in the stepwise relation corresponding to a corresponding region of the plurality of  
17 regions.

46. The tension mask for a color cathode ray tube according to claim 45, further  
1 comprised of a value M being obtained for a corresponding region of the plurality of regions of  
2 the tension mask by dividing a vertical pitch of real bridges in the corresponding region of the  
3 tension mask by a vertical pitch of dummy bridges in the corresponding region of the tension  
4 mask, the value M decreasing in a stepwise relation in a direction from the center portion of the  
5 tension mask to the peripheral portion of the tension mask, with each decrease in the value of M  
6 in the stepwise relation corresponding to a corresponding region of the plurality of regions.  
7

1        47. The tension mask for a color cathode ray tube of claim 46, further comprised of the  
2        value M being in a range of  $3 \leq M \leq 29$ .

1        48. The tension mask for a color cathode ray tube of claim 46, further comprised of a  
2        region of the plurality of regions of the tension mask having a value M obtained by dividing a  
3        vertical pitch of corresponding ones of real bridges in the region by a vertical pitch of  
4        corresponding ones of dummy bridges in the region and having an adjacent region to the region  
of the plurality of regions having a value  $M-n$  obtained by dividing a vertical pitch of  
corresponding ones of real bridges in the adjacent region by a vertical pitch of corresponding  
ones of dummy bridges in the adjacent region, with n being a value greater than zero and less  
than M.

1        49. The tension mask for a color cathode ray tube of claim 48, further comprised of the  
2        value M being in a range of  $3 \leq M \leq 29$ .

1        50. The tension mask for a color cathode ray tube according to claim 45, further  
2        comprised of a portion of the tension mask located to one side with respect to a center of the  
3        tension mask being symmetrical to a corresponding portion of the tension mask located to an  
4        opposing side with respect to the center of the tension mask.

1        51. The tension mask for a color cathode ray tube according to claim 45, further

2 comprised of the stepwise relation being symmetrical for corresponding portions of the tension  
3 mask respectively located on opposing side portions of the tension mask with respect to a center  
4 of the tension mask.

1           52. The tension mask for a color cathode ray tube according to claim 45, further  
2 comprised of corresponding regions of the plurality of regions respectively located on opposing  
3 side portions of the tension mask with respect to a center of the tension mask being symmetrical.